NEWS
In School Health
SCHOOL HEALTH UNIT
Spring 2003

OVERWEIGHT: A CHALLENGE FOR MASSACHUSETTS SCHOOLS AND COMMUNITIES

Overweight and obesity have become epidemics in our country. Every year more than 300,000 deaths are associated with obesity. Overweight and obesity have overtaken smoking as the number one preventable cause of death in the United States. Children and youth especially have been affected: during the past twenty years, children's weights have doubled and adolescent weights have tripled. Overweight is associated with many chronic illnesses later in life. It is the number one cause of pediatric hypertension. We are now seeing other "adult" type diseases such as type II diabetes affecting children as young as 9 years old.

The Surgeon General's "Call to Action to Prevent and Decrease Overweight and Obesity 2001" was a wake-up call to the nation. If we are to reverse this trend, we must attack the problem from all sides and in all environments.

Massachusetts, like other states, is confronting the poor dietary practices and inadequate physical activity that contribute to this epidemic. The most recent data for Massachusetts's youth (2001 Youth Risk Behavior Survey conducted in grades 9-12) are demonstrated in the chart below.

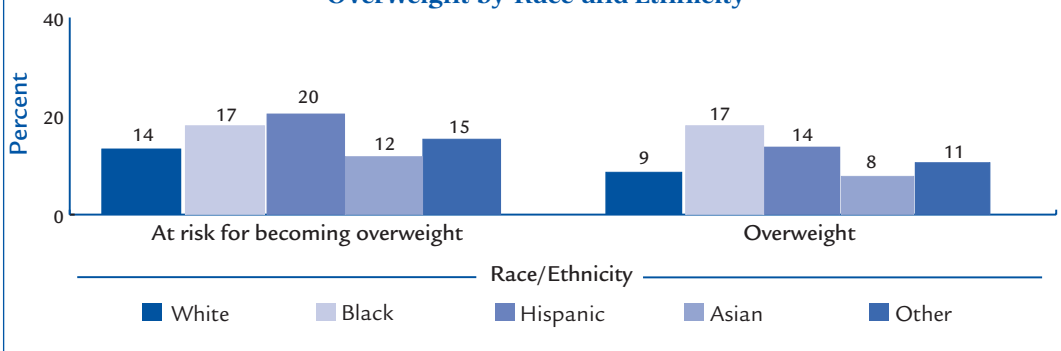
Schools will continue to play a vital role in this process. The central mission of schools is to promote academic achievement. Nutrition and physical activity contribute to this goal by improving student health, and r*esearch has shown that healthy students learn better.* School health education programs provide students with the important knowledge and skills needed to make lifelong healthy food and active lifestyle choices. However, teaching healthy behaviors is not enough. The behaviors must be practiced and supported through school policies, a healthful environment, food service initiatives and physical education programs, to name a few.

Launching overweight prevention efforts in each school will require the participation, dedication and efforts of many people. These may include, but are not limited to, school administrators, students, parents, community representatives, food service directors, teachers, school nurses and physicians, health educators, physical education teachers, community providers, etc. The first step is to establish a committee, or subcommittee of an existing group, which will devote its efforts to this initiative. To assist in this process, this issue of *News in School Health* presents a menu of assessment tools, programs and ideas for addressing the school environment. The challenge of overweight is not insurmountable: we urge all schools to accept it and move forward! Thank you.

Maria Bettencourt
Director Nutrition and Physical Activity Unit
Division of Community Health Promotion

Anne H. Sheetz
Director of School Health Services
Division of Child and Adolescent Health

Massachusetts High School High School Students at Risk for Being overweight and Overweight by Race and Ethnicity



"All parents want their children to have access to a bright future. Nutrition and physical activity have a significant impact on our nation's children, and schools that promote healthy habits are better able to help students achieve their education potential."

First Lady, Laura Bush

NEWSBRIEFS

SMALLPOX PREPAREDNESS:

The Massachusetts Department of Public Health (MDPH) has obtained approval from the Centers for Disease Control and Prevention (CDC) for the pre-event plan to address smallpox, should a case(s) occur. As part of this plan, the MDPH will be building its capacity to respond to a potential smallpox event by developing a cadre of trained vaccinators. School nurses may volunteer to be trained as smallpox vaccinators. All volunteer vaccinators should be eligible and willing to receive the vaccine themselves. School nurses who wish to *volunteer* for this program should e-mail Jana Ferguson (jana.ferguson@state.ma.us). ***In addition, all school nurses, school physicians and other school health personnel are urged to update their knowledge immediately on the signs and symptoms of smallpox, differentiation from chickenpox, facts about smallpox vaccination, how to administer a smallpox vaccination, etc. To assist in this process, please go to the CDC website at http://www.bt.cdc.gov/agent/smallpox/reference/resource-kit.asp.***

UPDATED SCHOOL HEALTH UNIT WEBSITE:

The MDPH School Health Unit website has been updated with the addition of regulations, program descriptions, forms and publications: http://www.state.ma.us/dph/bfch/mcfh/school/shu.htm

UPDATES ON CARING FOR CHILDREN WITH LIFE-THREATENING FOOD ALLERGIES:

- The recently completed document, "Managing Life Threatening Allergies in the Schools" may be downloaded from the Massachusetts Department of Education (MDOE) website: http://www.doe.mass.edu/ (Under "Select Program", choose "Nutrition"; then look under "Nutrition Resources")

- According to MDOE's publication, "Managing LifeThreatening Allergies in the Schools," ***epinephrine is the treatment of choice for anaphylaxis and should be given immediately***. In September 2001, the MDPH began collecting information related to the administration of epinephrine for the treatment of anaphylaxis in the school setting. Although a complete report of the findings will be presented at a later date, the following information from the study is considered critical for school systems in planning for the care of children with life-threatening allergies:

  Between September 2001 and March 2003, 90 instances of epinephrine administration for anaphylaxis were reported in Enhanced School Health Service (ESHS) schools. Of those individuals who received epinephrine, 24 % (21 students, 1 adult) had no history of anaphylaxis and did not have an order for the administration of epinephrine or an emergency action plan. Fortunately, these students/staff attended a school in which there was a school nurse present, there were protocols written by the school physician for the administration of epinephrine to individuals with symptoms of anaphylaxis, and there was a supply of epinephrine available. In all cases, the individuals were treated appropriately in the school with positive outcomes. ***Because of the potential for anaphylaxis in children with undiagnosed life-threatening allergic conditions, schools are encouraged to have protocols signed by the school physician whereby a school nurse may administer epinephrine when this emergency situation occurs***.

  In seven cases, either at the parent's request or the primary care physician's direction, the individual treated for anaphylaxis was not transported by emergency medical services to the nearest hospital emergency department. School personnel are reminded that students experiencing anaphylaxis require observation in a hospital emergency department for at least 4 – 6 hours after the initial symptoms subside, since it is possible to have a biphasic reaction which would require more intensive medical care than is available in a non-hospital setting.

- Based on the experience with the ESHS programs and as part of its continuous quality improvement program, the Massachusetts Department of Public Health, School Health Unit now is requesting that school nurses *from all school districts* complete an **Epi-Pen, Administration Form** whenever epinephrine is administered to a child with a life threatening allergic reaction (occurring either within the school or on school grounds). The forms may be obtained from the School Health website or the School Health Unit.

- The MDPH has organized an advisory committee to review proposed amendments to the regulations governing the administration of epinephrine by auto-injector within the school. The proposed changes apply to the school day, as well as before and after school programs. The Department will publicize the date of the formal hearing for the proposed amendments.

- Registration for delegation of (a) medications on field trips and (b) epinephrine for students experiencing a life-threatening allergic reaction must be renewed every two years. (The

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registrations expire on June 30th of the second year of registration.) Please **write** to the School Health Unit to obtain a renewal application.

INSTEP WITH SCHOOL HEALTH:

This joint newsletter published by MDOE and MDPH through our shared participation in the CDC-funded Coordinated School Health Program, is available on-line through the MDOE's website. The Fall 2002 issue focuses on physical activity: http://www.doe.mass.edu/hssss//news02/chse-news.pdf.

MENTAL HEALTH:

Mental health promotion in our children, adolescents, families, schools and communities is of paramount importance. School personnel are encouraged to create a supportive, emotionally healthy school climate, to identify risk behaviors in their students, to foster resilience and to employ comprehensive, collaborative, systemic interventions. The following web sites offer a wealth of information, practical tools and helpful resources to assist in that effort:

www.mentalhealth.org - Department of Health and Human Service/Center for Mental Health Services

www.AACAP.org - American Academy of Child and Adolescent Psychiatry

http://smhp.psych.ucla.edu - Center for Mental Health in Schools/UCLA

www.talklisten.org - Coalition for Child and Adolescent Mental Health/BFCH.

The following are also useful:

1) www.Healthinschools.org/mhs.asp;
2) www.nimh.nih.gov;
3) www.medainc.org;
4) http://csmha.umaryland.edu;
5) www.mirror-mirror.org/child.htm

REPORTING OF WORK-RELATED ASTHMA: SCHOOLS ARE AN IMPORTANT WORKSITE:

The Occupational Health Surveillance Program tracks cases of work-related asthma in Massachusetts. Among the people with work-related asthma, educational services is the second most frequently reported industry (confirmed cases 1993-2001). **Physicians are mandated to report cases of work-related asthma to the Massachusetts Department of Public Health.** The MDPH uses this data to help prevent work-related asthma in the future. Please inform school staff that the appropriate reporting form may be downloaded from http://www.state.ma.us/dph/bhsre/ohsp/crodi.pdf. For further information or questions, please call the MDPH Occupational Health Surveillance Program, (617) 624-5626 or FAX: (617) 624-5696.

SKIN CANCER PREVENTION INITIATIVES:

Skin cancer is increasing faster than any other form of cancer in Massachusetts. *Project S.A.F.E.T.Y.*, a skin cancer prevention curriculum for grades 5 through 12, continues to be available *free of charge* by contacting Mel Rubin at the Massachusetts Melanoma Foundation, 617-232-1424 or info@massmelanoma.org. **All schools are encouraged to take advantage of this resource.**

SARS:

The Massachusetts Department of Public Health and Centers for Disease Control and Prevention (CDC) are issuing updates for schools pertaining to SARS. Please monitor the MDPH web sites, as well as the (CDC) SARS web site: http://www.cdc.gov/ncidod/sars Another important web site is World Health Organization (WHO) http://www.who.int/csr/sars/en.

CHANGES IN VARICELLA ISOLATION REQUIREMENTS:

The Massachusetts Isolation and Quarantine Regulations have been amended: "Susceptible students or staff, who are not appropriately immunized or are without laboratory evidence of immunity or a reliable history of chickenpox, shall be excluded from school from the tenth through the 21st days after their last exposure." Please consult you regional office epidemiologist or the State Lab (617 983-6800) for questions about the "zone of exposure", definition of contacts, etc., should a single case or outbreak occur. Varicella is a reportable disease. Please see the School Health web site for further information on the amended regulations as they pertain to schools.

PHYSICAL ACTIVITIES BROCHURES:

The Centers for Disease Control and Prevention (CDC) is pleased to announce the availability of four free brochures to help parents, teachers, and principals increase physical activity among elementary and middle school-aged youth. These colorful brochures contain photos, motivating messages, and specific activity ideas for home, school, and community. The parents' brochure is available in English and Spanish versions. To print or order copies, go to http://www.cdc.gov/HealthyYouth/PhysicalActivity or call toll-free (888) 231-6405.

HEALTHY STUDENTS PERFORM BETTER IN SCHOOL

William Potts-Datema, Director, Partnerships for Children's Health
Department of Health and Social Behavior, Harvard School of Public Health

Communities across America suffer from a health crisis costing billions of dollars annually and causing more than 4,600 deaths every day. Every segment of society is affected. Government strains to bear the burden. No family is untouched.

The causes of this crisis are familiar–slow, silent killers, including cardiovascular disease, cancer, and diabetes. These chronic diseases are among the most prevalent, costly, and preventable of all health problems.

The seeds of these chronic diseases are sown through unhealthy behavior initiated during childhood and youth. Poor and inadequate nutrition, inactivity, smoking, and other risky behavior are primary contributors to premature disability and death, creating staggering human and economic costs.

While these problems require attention from all of society, school board members and educators can take a powerful leadership role in finding solutions. Every school day, approximately 53 million young people attend school in the United States. For 13 years, schools play a critical role in children's lives, enabling them to establish and maintain healthy behavior.

Of course, the primary role of schools is to foster academic achievement. As a former teacher and staff member of a state department of education, I understand well the demands of school reform and the pressures on school boards to find innovative ways to enable students to perform to high standards and expectations. Any solution must include educational achievement as a priority.

But, fortunately, there are many opportunities for education and public health to be partners in search of solutions. Schools can teach knowledge and behavior that not only will foster healthy lifestyles but also will better prepare students to learn. School board members are uniquely positioned to take leadership roles in this effort.

Research increasingly supports the critical link between health and learning. For example, new data clearly show that when students receive proper nutrition, they perform better in the classroom:

- Numerous studies link participation in school breakfast programs with increased achievement as measured by standardized test scores and grades.
- Participation in school food programs also has a positive effect on psychosocial outcomes, leading to lower levels of anxiety, hyperactivity, depression, and psychosocial dysfunction.
- Other factors, including absenteeism, tardiness, class participation, and suspension rates are affected positively.
- Dietary iron deficiency can lead to a shortened attention span, irritability, fatigue, and difficulty with concentration–all detriments to learning.

Schools also can have a positive impact on students' level of physical activity and thereby also improve students' classroom performance. Recent data show that:

- Student achievement can be maintained if schools provide more opportunities for physical education, even if class time for academic subjects is cut back.
- Physical activity can help increase students' ability to concentrate and reduce disruptive behavior, which can have a positive impact on academic achievement.

School board members can capitalize on the links between nutrition and physical activity and student success. Here are some actions that work:

- Offer a nutritious breakfast program. Far too many children leave home without a breakfast that provides the fuel they need for academic achievement. Without this start, students fight a losing battle throughout the school day.
- Offer and promote healthy food options for students throughout school buildings, including the cafeteria, at student clubs and other co-curricular meetings, and at dances and other social events. Promote fresh fruit, milk, water, and fruit juice consumption and limit access to foods high in sugar and fat content.
- Provide high-quality physical education and appropriate physical activity programs for all students at all ages.
- Start a faculty and staff wellness program.
- Offer classes directed toward establishing and maintaining lifelong physical activity. Work with the community to establish high-quality co-curricular physical activity programs.
- Encourage health education courses that teach students about nutritious eating.

This sounds basic, but a recent survey of high school student leaders conducted by the National Association of Student Councils found that most respondents did not know how many servings from each of the five major food groups a person should eat daily. And 65 percent of these student leaders said they wanted more information on the benefits of good nutrition.

- Hold parent meetings to discuss nutrition, physical education, and physical activity initiatives. Parents are often more engaged when they understand the issues and know what they can do to help. Encourage them to model healthy eating and exercise habits. Review the importance of a good breakfast and healthy snacks.
- Work with locally elected officials to help them understand the importance of good nutrition and physical activity for children and youths. As elected officials, school board members can speak as peers to state legislators.

We can and should work together to improve the ability of students to succeed in school while helping them to establish and

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THE SCHOOL HEALTH INDEX: AN ASSESSMENT TOOL FOR PHYSICAL ACTIVITY AND HEALTHY EATING

Julie Robarts, 5-2-1 Coordinator
Nutrition and Physical Activity Unit, Division of Community Health Promotion

The School Health Index (SHI) is a self assessment tool developed by the Centers for Disease Control and Prevention (CDC), to help schools: (a) identify the strengths and weaknesses of their physical activity and nutrition policies and programs, (b) develop an action plan for improving student health, and (c) involve teachers, parents, students, and the community in improving school services.

The tool was designed to correspond to the coordinated school health model with a module for each of the eight components: health education, physical education, health services, nutrition services, counseling, psychological, & social services, healthy school environment, health promotion for staff and family/community involvement. The premise is that physical activity, eating habits and tobacco use (just added to the SHI) of students are influenced by the policies and practices in each of the eight components rather than limited to those established for the cafeteria or gym class. The SHI is designed to bring together representatives from across the coordinated school health programs to create a healthier school. Two tools are available: one for elementary schools and the other for the middle and high school level.

HOW TO USE THE SCHOOL HEALTH INDEX

- Identify a coordinator to organize the process.
- Review the eight modules.
- Assemble the school health index team, e.g., school nurses, administrator, food service director, classroom teacher, physical education teacher, health educator.
- Set up a meeting to review the modules and assign team members to work on modules.
- Complete each module.
- Complete the score cards for each module and compile into a comprehensive score card.
- Meet to review the scores and develop an action plan based on your results.
- Use the SHI to monitor your progress towards accomplishing your action plan.

As your team goes through this process, it is important that the modules be completed as accurately as possible. (A school's scores are not reported to the CDC, MDPH, or any other agency.) The main purpose of this activity is to understand your school's strengths and weaknesses and to begin to improve your overall school environment. The initial assessment should take approximately 5 hours, but it is important to establish a schedule for annual updates to continue improvements and ensure accountability.

The SHI tools are available from the Centers for Disease Control and Prevention at no cost:

- Download from CDC website: http:/www.cdc.gov/nccdphp/dash
- Request by email: ccdinfo@cdc.gov.
- Call the Division of Adolescent and School Health Resource Room (770) 488-3168.
- Request by toll-free fax (888) 282-7681.
- Request on-site training on the SHI from MDPH by e-mailing or calling the following: Michelle Zbell, MDPH Program Coordinator, Coordinated School Health Program at michelle.zbell@state.ma.us (617) 624-5537; and/or Julie Robarts at julie.robarts@state.ma.us (617) 624-5492.

NUTRITION IN SCHOOLS

Jennie Greene,
Harvard School of Public Health, Center for Cancer Prevention

According to the Centers for Disease Control and Prevention, more than 60% of young people eat too much fat, and less than 20% eat the recommended five or more servings of fruits and vegetables a day. In response, schools across the country are increasingly looking for effective ways to encourage better nutrition and healthier eating habits. One program available to schools is the U.S. Department of Agriculture Team Nutrition's Changing the Scene: Improving the School Nutrition Environment.

Changing the Scene is a tool kit that helps parents, teachers, school administrators, food service employees, and other community members assess a school's nutrition environment by asking such key questions as: Do students have a comfortable place to sit and eat lunch? Do they have enough time to eat? Does the school teach good nutrition in the classroom but then sell soda to raise money? Are healthy food choices available at school parties

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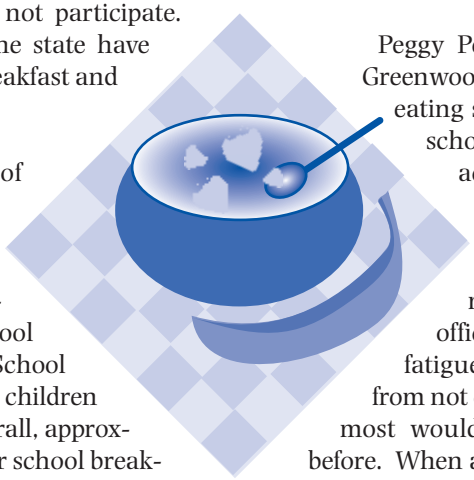
THE SCHOOL BREAKFAST PROGRAM IN MASSACHUSETTS: AN UPDATE

Katherine Griswold, Child Nutrition Outreach Coordinator
Project Bread/The Walk for Hunger

In Massachusetts 1 in 5 children under the age of 12 is hungry or at risk of being hungry, School breakfast becomes a crucial part of their daily nutritional intake. Research has repeatedly shown that students who eat breakfast learn better, behave better, and perform better than children who don't eat breakfast. In addition to scoring better on standardized tests, students that participate in the school breakfast program are tardy and absent from school less often than those that do not participate. School nurses and administrators across the state have long recognized the importance of school breakfast and its link to happier, healthier students.



The Massachusetts Department of Education has collaborated with Project Bread in its Child Nutrition Outreach Program for nearly 10 years. The program seeks to increase the number of low-income children participating in the School Breakfast Program. Currently, the federal School Breakfast Program feeds more than 100,000 children in Massachusetts in over 1,000 schools. Overall, approximately 61% of the state's public schools offer school breakfast.

Despite the progress that has been made, the program is still underutilized. In most schools in Massachusetts, only 32% of students eligible for free and reduced price meals participate in the School Breakfast Program. Some of the biggest barriers to students eating school breakfast are stigma, accessibility and convenience. The stigma attached to school breakfast is due primarily to the perception that it is a program for poor children. Universal Breakfast is an effective way to reduce the stigma by removing the pay categories and offering all students, regardless of income, a free breakfast. Approximately 300 schools in Massachusetts have a universal breakfast program.

The Woodrow Wilson School in Framingham, MA began serving universal breakfast in the classroom in the spring of 2002, and Principal Robin Welch loves it. "I have been very pleased and the children seem so much more aware and attentive in the morning after breakfast. This has also helped my kids "prepare" for the MCAS test in that they are fed and ready to do the test each day!"

Nurses can play an important role in promoting the school breakfast program. Students that don't eat breakfast often end up at the nurse's office complaining of hunger related problems such as headaches and stomachaches. Nurses can keep track of these visits and use the information to educate school officials, staff, and parents on the consequences of children starting the school day without breakfast.

Peggy Perez De Leon, a school nurse at the Sarah Greenwood School in Boston, saw the difference that eating school breakfast made for the students of her school and the importance of convenience and accessibility to the program.

"As for the health office visits, before the free breakfast program, there were many visits (around 10:00 a.m.) to the health office for symptoms of dizziness, headache, and fatigue, all consistent with hypoglycemic reactions from not eating. When asked when their last meal was, most would state between 4:00-6:00 p.m. the night before. When asked why they did not eat breakfast the usual response would be, there was not enough time or I woke up late."

Recently state legislators have also recognized the importance of school breakfast. This past year $6 million was allocated to the School Breakfast Program. In a time of budget cuts and funding issues, school breakfast remains a strong resource that principals can utilize to help strengthen both the academic and health components of their schools.

For more information or help with your school's breakfast program, contact the Department of Education's Nutrition Programs and Services at 781/338-6498 or the Child Nutrition Outreach Program at 617/239-2570, or visit www.doe.mass.edu/cnp or www.projectbread.org/support_school_breakfast.htm. The Outreach Department can supply schools with materials and support to establish and promote a school breakfast program.

THE HEALTHY SCHOOLS SUMMIT- ACTION FOR HEALTHY KIDS

Maria Bettencourt, MPH, LN
Director of the Nutrition and Physical Activity Unit, Division of Community Health Promotion, Bureau of Family and Community Health, Massachusetts Department of Public Health

Establishing life-long healthy eating and physical activity patterns will help children reach their true potential. A partnership of more than 30 national education, fitness, nutrition and health organizations sponsored a Summit October 7-8, 2002, in Washington, D.C to address the school's role in improving nutrition and physical activity among the nation's children. The two-day summit was chaired by former U.S. Surgeon General, Dr. David Satcher, author of the *2001 Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity.*

Over 500 participants representing groups that have an interest and responsibility in the education and health of children: school administrators, school committee members, government leaders at state and federal levels, food service directors, counselors, dietitians, nurses, health and physical education teachers, health practitioners and concerned members of the community attended this event.

SUMMIT OBJECTIVES INCLUDED:

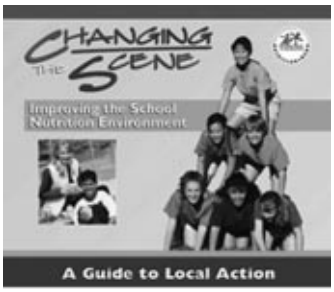
- Motivating opinion leaders, practitioners, and the concerned public who are involved with and committed to improving children's nutrition and fitness in the K-12 school environment.
- Gaining the commitment of Summit participants in helping to implement a Commitment to Change for a healthy school environment at the national, state and local level.
- Initiating and launching Action for Healthy Kids State Teams that will develop state action plans - gaining momentum after the Summit.

Massachusetts was well represented at the Summit. A Massachusetts Team has been established to address key components of the *Commitment to Change*. The Massachusetts team is co-chaired by Maria Bettencourt (MDPH) and Katie Millett (MDOE). If you are interested in learning more about the state team, or would like to become involved in team activities, please contact Erin Coffield (New England Dairy and Food Council- ecoffield@newenglanddairy.com)

The summit website: www.actionforhealthykids.org has resources and tools that schools can use to address nutrition and physical activity in schools including speaker presentations and transcripts, the Healthy School Summit's *Commitment to Change* guiding document, fact sheets, a school environment action planning guide and information on programs that are working.

NUTRITION IN SCHOOLS *continued from page 5*

and after-school activities, as well as in the school cafeteria? By answering questions like these, program participants can develop a better understanding of their school's nutrition environment and then implement a plan for improvement.



Like many schools across the nation, a number of schools in Massachusetts have successfully incorporated Changing the Scene into their nutrition programs. They have done so by collaborating with such diverse organizations as the New England Dairy and Food Council, Project Bread, John C. Stalker Institute of Food and Nutrition at Framingham State College, University of Massachusetts Cooperative Extension, and Harvard School of Public Health. According to Kathleen Millett, Director of Nutrition Programs and Services at the Massachusetts Department of Education, the success of the Changing the Scene program has brought attention to Massachusetts schools: "Some of our schools are being used as national models, especially those that are participating in the Changing the Scene project."

For more information on Changing the Scene, visit the program's website at www.fns.usda.gov/tn/healthy/changing.html. For additional information on promoting nutrition in local schools, visit Your Cancer Risk at www.yourcancerrisk.harvard.edu and select *Healthy Eating* under *Community Action*.

CHILDREN WEIGHING IN FOR BETTER HEALTH: BODY MASS INDEX (BMI)

The Body Mass Index or BMI provides a guideline based on weight and height to determine who is underweight and who is at risk for overweight, overweight or obese. While the BMI has been commonly used to evaluate body fat in adults, only recently has it been recommended for use in screening children and adolescents. Due to negative connotations associated with the term "obesity", the terms "at risk for overweight" and "overweight" are preferred for use with children and adolescents.

The following cut off points have been established to identify underweight and overweight in children

Underweight	BMI for age < 5th percentile
At risk of overweight	BMI for age 85th percentile to < 95th percentile
Overweight	BMI for age >/- 95th percentile

BMI for age is plotted on gender specific charts. The difference between the new charts and the old is that the old weight-for-stature charts showed curves that demonstrated how weight increases in relation to stature while the new BMI-for-age charts shows age related changes in growth. Weight, stature and age are considered in the new BMI-for-age charts. BMI differs for children by age and gender.

WHY USE THE BMI FOR AGE CHARTS FOR CHILDREN AGE 2 TO 20?

- BMI in children and adolescents compares well to laboratory measures of body fat.
- BMI can be used to track body weight from age 2 to adulthood.
- BMI for age is the measure that is consistent with the adult index.
- BMI for age relates to health risks. Children and teens with BMI for age above the 95th percentile are more likely to have factors for cardiovascular disease. Children with BMI for age above the 95th percentile are more likely to become overweight adults.

WHAT IS THE CORRECT PROCEDURE FOR COLLECTING MEASUREMENTS?

An accurate interpretation of growth depends on the accuracy of measurement of height and weight.

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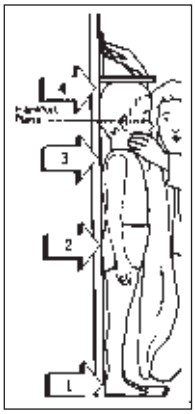
MEASUREMENT	EQUIPMENT	PROCEDURE
WEIGHT	Use a bathroom beam or electronic scale to weigh on level surface. This can be a beam balance scale or a digital (electronic load cell or strain gauge) scale.	◆ Remove child's shoes, hats and bulky clothing ◆ Place the scale in the "zero" position before the child steps on it ◆ Have the child stand still with both feet in the center of the platform ◆ Read the measurement to the nearest _ pound (100 gms) ◆ Record results immediately
STATURE 	Use a standing height board (stadiometer). The stadiometer has a flat vertical surface on which a measuring rule is attached. A moveable headpiece is mounted on the wall or measuring device on a level floor.	◆ Remove child's shoes, hats and bulky clothing ◆ Undo or adjust hair styles that interfere with measurement ◆ Have child stand facing outward, erect, shoulders level, hands at side, knees or thighs together ◆ At least two parts of body (head, back, buttocks, and heels have contact with stadiometer (# 1-4 on graph) ◆ Position child's head into Frankfort Plane (an imaginary line from the lower margin of the eye socket to the notch above the tragus of the ear) (source: CDC) ◆ Lower the headpiece until it firmly touches the crown of the head and is at a right angle with the measurement surface ◆ Read the stature to the nearest 1/8th inch (1mm) ◆ Record immediately

CHILDREN WEIGHING IN FOR BETTER HEALTH: BODY MASS INDEX (BMI) *continued from page 8*

MEASUREMENTS MUST BE RECORDED ACCURATELY IF THEY ARE TO BE USED AS EFFECTIVE SCREENING SOURCE.

After collecting the accurate height and weight, select the appropriate growth chart, record the data, calculate BMI, plot the measurements and interpret the plotted measurements. To calculate BMI using the English version one must convert ounces and fractions to decimals or if using the metric version convert the pounds and ounces to kilograms and meters respectively, divide weight by height-squared and multiple that total by 702 if using the English version or 10,000 if using the metric version.

BMI CALCULATION FORMULAS

BMI= (weight(lb)/height(in)2) x 703 – English version (weight(kg)/height(cm)2 x 10,000 – Metric version
Example 1 (40.25lbs/40.75in*40.75in) x 703 =17.0
Example 2 (16.6kg/99.1cm*99.1cm) x 10,000 = 16.9

BMI charts are available and can be substituted for actual calculations. Charts are available at http://www.cdc.gov/nccdphp/dnpa/bmi/00binaries/bmi-tables.pdf

Plot the BMI on the growth chart. BMIs that fall between the 25th and 85th percentiles, are considered to be within the normal range. BMI measurements outside of those ranges indicate a need for further assessment.

For more information on BMIs go to the following CDC website: http://www.cdc.gov/nccdphp/dnpa/growthcharts/training/modules/. This website includes an interactive BMI training module.

TYPE 2 DIABETES

Nidu Menon, PhD, Program Evaluator
Office of Statistics and Evaluation, BFCH, MDPH

Type 2 diabetes is one of the major public health challenges of the 21st century. In the past two decades, there has been a paradigm shift of type 2 diabetes from a disease occurring only among adults, to one that is increasingly being diagnosed among children and adolescents. Due to this recent paradigm shift, little is known about the progression of type 2 diabetes and its complications in children. If the disease follows the same track as diabetes among adults, the children who have undiagnosed and uncontrolled type 2 diabetes will be at risk for complications much earlier in their life. This may mean that many of these children may face disability at the time of life when they should be in their peak productive years.

Epidemiological data on the condition is limited. In Massachusetts, the data is mostly anecdotal. A recent study (Sinha, et.al., 2002, NEJM) estimated that 25 % of children, 4-10 yr. old and 21% of children, 11-18 years of age who had a BMI over the 95th percentile for age and sex had impaired glucose tolerance. Four percent of these overweight adolescents had silent type 2 diabetes. In Massachusetts, this estimate, if accurate, translates to approximately, 34,885 children between the ages of 6-19 who may have impaired glucose tolerance and approximately 7155 children in that age group who may already have type 2 diabetes.

As with adults, prevention should be the primary focus for children and adolescents at risk for type 2 diabetes. Education about the benefits of healthly eating habits and an active life style must be started early. Identification of children and adolescents at risk for diabetes and those with diabetes who are undiagnosed is important to prevent the progression of chronic complications.

The Massachusetts Diabetes Prevention and Control Program (MDPCP) convened a type 2 diabetes in children and adolescents work group meeting in July 2002 to discuss and identify the issues involved in the treatment and management of type 2 diabetes and coexisting complications. Workgroup participants included representatives from Managed Care Organizations, Children's Hospital, Joslin Medical Center, medical professionals, Massachusetts School Health Program, Massachusetts Partnership for Healthy Weight, Massachusetts Department of Education, and other agencies involved in the care and management of diabetes among children.

The work group made the following recommendations:

1. Establish a reliable prevalence estimate to identify high-risk groups within the state, as well as monitor the impact and progression of the condition. Identify suitable methods to establish and track prevalence estimates for the condition.
2. Identify markers (e.g. yeast infection) that can be used for

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THE MASSACHUSETTS PARTNERSHIP FOR HEALTHY WEIGHT

Vivien Morris, MPH,MS,RD,LDN, Director Massachusetts Partnership for Healthy Weight Nutrition and Physical Activity Unit, Division of Community Health Promotion, Massachusetts Department of Public Health

Working on the front line of health care in schools, nurses are sadly aware of the growing epidemic of overweight among Massachusetts children and adolescents. Recent data shows that the epidemic continues to worsen. The most recent Youth Risk Behavior Survey (YRBS) found that twenty five percent (25%) of high school students are either overweight or at risk of overweight. (2001 YRBS)

The Massachusetts Partnership for Healthy Weight (MPHW) was created in response to the growing epidemic of overweight and obesity among Massachusetts residents. The initial priority population of concern is children and youth. Twenty five percent (25%) of high school students and 33% of 2-5 year old children are either overweight or at risk of overweight. (2001 YRBS, 2001 PedNSS). With financial support from the Centers for Disease Control and Prevention (CDC) in Atlanta, and coordination by the Massachusetts Department of Public Health (MDPH), local and statewide organizations, communities and university partners have been crafting a strategic response to this massive and growing health problem.

Task forces charged with determining the best approaches to fighting the epidemic in schools, communities, and health care institutions, as well as task forces focusing on data collection, education and communications have been meeting over the past year. On November 19, 2002 representatives from the partnering organizations met to detail the strategic plan. The plan focuses on nutrition and physical activity-related interventions, with an emphasis on local policy-level changes that promote supportive environments designed to encourage individual healthy diet and physical activity behaviors. A draft of the plan will be available in Spring 2003.

The partnership has developed and is implementing a school-based intervention called 5-2-1- Go! Thirteen middle schools throughout the state are participating in this multi-disciplinary and comprehensive approach to overweight prevention and control. The intervention includes integrating key health messages into core subject classes (English, mathematics, social studies and science) and physical education. Key messages include: eating a minimum of 5 servings of fruits and vegetables per day, watching no more than 2 hours of television per day, and getting at least 1 hour of physical activity daily. Additionally, schools will work to change school policies that hinder students from eating healthily and being more physically active. A data collection tool was developed to capture information on student practices and beliefs related to nutrition and physical activity. In addition to the survey tool, BMIs were collected on students in both intervention and comparison schools with support from school health staff. The survey tool is being piloted to determine its usefulness as an ongoing data collection tool for use with this age group and also to evaluate the effectiveness of the intervention in combination with the BMI data. We hope to learn from this intervention how other schools can adapt this approach.

Additionally, many communities across the state are developing coalitions to promote healthy eating and physical activity. Schools are encouraged to join these efforts or to help establish a new community-based effort if one does not already exist in your community.

For more information on any of the above MPHW initiatives, please contact Vivien Morris at vivien.morris@state.ma.us

HEALTHY STUDENTS PERFORM BETTER IN SCHOOL *continued from page 4*

maintain healthy behavior that can prevent chronic disease.

In that spirit of partnership, more than 30 education and health organizations, including NSBA, cosponsored a national event, the "Healthy Schools Summit: Taking Action for Children's Nutrition and Health," held in Washington, D.C., Oct. 7-8. The event was chaired by Dr. David Satcher, former U.S. Surgeon General. Laura Bush was the honorary chair. Local school board members and other education policymakers will be able to build upon the actions taken at the summit. State healthy schools teams are forming to advance the summit's mission at the state, school district, and school- building levels. Each team will develop its own action plan to identify and pursue its state's most important issues.

Working together, we can improve students' health status and ability to achieve in school. We can make a difference in our children's ability to lead long, healthy, happy, and productive lives free of chronic disease.

School board members are important decision-makers and opinion leaders in this critical work. The actions we begin together can provide a healthier, more productive future for America's children and youth.

Bill Potts-Datema is Director of Partnerships for Children's Health at the Harvard School of Public Health.

RESOURCES

Publications:

Taking the Fizz out of Soda Contracts: A Guide to Community Action, Project Lean:
A resource for communicating with parents, students, community members and school decision-makers. on policies related to soda and other sugary drinks. http://www.californiaprojectlean.org/consumer/

Playing the Policy Game: Preparing Teen Leaders to Take Action on Nutrition and Physical Activity, Project Lean: A tool kit for teens to address nutrition and physical activity policies in the school and community with adult guidance. www.californiaprojectlean.org/consumer/

Websites

www.Kidnetic.com: Non-commercial web site for ages 9-12 and their families that communicates healthy eating and active living information in meaningful and relevant ways. It is an initiative of the International Food Information Council (IFIC) Foundation and its partners.

www.bam.gov *BAM!* : A CDC website created to answer kids' questions on health issues and recommend ways to make their bodies and minds healthier, stronger, and safer. Includes interactive activities that teachers can use in science and health curriculums.

www.verbnow.com : This CDC sponsored interactive website encourages kids, "tweens" to be physically active. Examples of physical activity that are fun and cool are provided.

http://navigator.tufts.edu: A good reference tool for finding credible nutrition, physical activity and food safety information on the web.

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Mitt Romney, Governor
Kerry Healy, Lieutenant Governor
Ronald Preston, Secretary
Christine C. Ferguson, Commissioner
Sally Fogerty, Assistant Commissioner

TYPE 2 DIABETES *continued from page 9*

the early identification of children with type 2 diabetes (Acanthosis Nigricans).

3. Address coding and reimbursement concerns of providers, which will assist in the early identification and management of children who are at risk of developing type 2 diabetes.
4. Increase awareness of the disease and its potential complications among parents.
5. Establish policy changes in schools which will afford the child with diabetes an environment that is conducive to making healthy eating and active living part of routine life.
6. Build on the current knowledge to understand and address the long-term impact of early complications, the rate of progression, effect on pregnancy and birth defects, and the future generations.

As part of its ongoing efforts to develop a comprehensive approach to combat this emerging problem, the MDPCP is planning to organize four working groups to address the following areas: *Diagnosis and treatment*, *Provider education*, *Surveillance* **and** *Community outreach*.

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- Discuss the health benefits of fruits and vegetables in health, science, and food and consumer science classes.
- Teach historical and cultural issues related to fruits and vegetables in social studies classes.
- Coordinate classroom and classroom based activities – e.g. the cafeteria can offer fruits and vegetables that are being discussed in the classroom.

For further information about the Massachusetts 5 A Day for Better Health Program, please contact Suzanne Craig, Massachusetts 5 A Day for Better Health Coordinator at suzanne.craig@state.ma.us.

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5 A DAY IN MASSACHUSETTS

Suzanne Craig, MD, MPH, PhD, 5A Day Coordinator, 5 A Day for Better Health Program
Nutrition and Physical Activity Unit, Division of Community Health Promotion

Regional Networks

Exciting things are happening with the 5 A Day Program in Massachusetts. Regional networks/coalitions are being established in the six regions of the Commonwealth: Western, Central, Northeast, Metrowest, Southeast, Greater Boston. School personnel including nurses and food service directors are involved in the regional networks. These networks will coordinate efforts at the regional level to promote the increase of fruit and vegetable consumption of residents. The networks will also provide participants with a forum to share ideas and collaborate in their respective regions on resource development, media outreach, and other activities. A representative from each region will serve on the statewide 5 A Day coalition. This individual will bring information to the statewide group on support needs of the regional groups. The statewide coalition will monitor the activities of the regional groups and offer technical support and training to them as needed.

The 5 A Day for Better Health Program is a nationwide program that works through public-private partnerships to increase Americans' consumption of fruits and vegetables to 5 to 9 servings a day to promote good health.

Fruits and vegetables are nutritious, low calorie foods that can help control weight. In addition, scientific evidence shows that diets rich in fruits and vegetables may reduce the risk of the three leading causes of death in Massachusetts: heart disease, stroke, and cancer. While risk reduction ranges from 20-40%, only 31% of Massachusetts adults 18 years of age and older, and 13% of high school students eat the recommended amount of fruits and vegetables. We all have a great amount of work to do if we are to see an increase in fruit and vegetable intake in our state's population!

The school is an ideal setting to promote and model fruit and vegetable consumption for both youth and adults. Following are examples of ways that schools can promote fruit and vegetable intake:

- Teach simple ways to prepare fruits and vegetables in the classroom (as part of core subjects, consumer science, or health) and provide the opportunity for tasting new fruits and vegetables in the cafeteria, or in after-school programs.

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